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(54) Title: A METHOD OF DEPOSITING AN ELECTROCATALYST AND ELECTRODES FORMED BY SUCH METHOD

## (57) Abstract

Fuel cell electrodes comprising a minimal load of catalyst having maximum catalytic activity and a method of forming such fuel cell electrodes. The preferred method comprises vaporizing a catalyst, preferably platinum, in a vacuum to form a catalyst vapor. A catalytically effective amount of the catalyst vapor is deposited onto a carbon catalyst support on the fuel cell electrode. The electrode preferably is carbon cloth. The method reduces the amount of catalyst needed of a high performance fuel cell electrode to about 0.3 mg/cm<sup>2</sup> or less, preferably to about 0.1 mg/cm<sup>2</sup>. The electrocatalytic layer formed comprises unique, rod-like structures.